

REMARKS

These remarks are addressed to the rejections maintained in the final Office Action in the parent application (mailed October 27, 1999) and the Advisory Action in the parent application (mailed February 11, 2000).

Claims 1-9, 13, 14, and 44-47 are pending. Claim 13 has been amended and claims 44-47 have been cancelled by way of this preliminary amendment.

The pending claims are drawn to an optical polarizer that combines in close proximity (i) a polymeric reflective polarizer that reflects light having a first polarization state and transmits light having a second polarization state, and (ii) an absorbing polarizer that is aligned to absorb light of the first polarization state and to transmit light of the second polarization state. This combination of a reflective polarizer and an absorbing polarizer can provide a high reflectivity for light of a first polarization and high transmission for light of a second polarization for light incident from the reflective polarizer side of the optical polarizer. This combination can also provide high absorption for light of the first polarization and high transmission for light of the second polarization for light incident from the absorbing polarizer side of the optical polarizer.

Implementation of Applicants' invention can produce an optical polarizer that has an increased extinction ratio (i.e., transmission ratio of light having one polarization state versus another polarization state) and low reflectivity (from the absorbing polarizer side), even when using a lower extinction ratio absorbing polarizer.

In the final Office Action in the parent application, claims 1-9 and 14 were rejected under 35 U.S.C. §103(a) as being unpatentable over the Schrenk patent. In the final Office Action, it was stated that Schrenk discloses a polymeric birefringent reflective polarizer and that Schrenk further discloses that it may be desirable to incorporate coloring agents such as dyes into one or more individual layers of the reflective polarizer. It was argued that disposing a dye into the reflective polarizer as disclosed by Schrenk to permit selective absorption of certain wavelengths "obviously serves as an absorbing polarizer." In an earlier Office Action mailed May 19, 1999, it was stated that incorporating dyes into one or more of the individual layers of the birefringent polarizer "inherently and/or obviously serves as an absorbing polarizer." According to statements in the final Office Action, it would have been obvious to "adjust and/or tailor the degree of absorptance [of the dyes] in order to meet user's

specifications,” namely to absorb the first polarization state and transmit the second polarization state.

Applicants’ position is that these assertions are wrong in fact, and even if they were correct would be insufficient to support an obviousness rejection. The §103(a) rejection does not represent a *prima facie* case of obviousness because (1) the Schrenk patent does not teach or suggest the present invention, (2) there is no motivation to modify the Schrenk patent as suggested in the Office Actions, and (3) even if the Schrenk reference was modified according to what is fairly disclosed, Applicants’ invention would not result.

Claim 1 is directed to an optical polarizer that includes a polymeric reflective polarizer and an absorbing polarizer disposed in close proximity to and aligned with the polymeric reflective polarizer. While Applicants agree that Schrenk teaches a polymeric reflective polarizer, it cannot be said that incorporating dyes into individual layers of the Schrenk polarizer would, or even could, serve as an absorbing polarizer. It is simply not true that dyes or other coloring agents “obviously and/or inherently” perform such a function. For this reason alone, the rejection should not be maintained,¹ and Applicants therefore request reconsideration.

The absorbing “coloring” agents of Schrenk are pigments or dyes used to selectively absorb certain wavelengths of light. There is no teaching or suggestion of using an absorbing polarizer with the reflective polarizer to substantially transmit one polarization state while substantially absorbing another polarization state. Polarization is neither inherent nor obvious from the colored dyes taught by Schrenk. Any polarization function in the polarizer disclosed by Schrenk would be derived solely from the polymeric birefringent reflective polarizer, and would not be due to any absorbing polarizer. Assertions to the contrary misread and mischaracterize what Schrenk fairly discloses.

The present claims specifically recite that an absorbing polarizer is disposed to “substantially absorb light of a first polarization state and to substantially transmit light

¹ The Examiner has stated that an absorbing polarizer function of dyes incorporated into the Schrenk reflective polarizer would be obvious and/or inherent. To rely upon such a theory, the Examiner must provide a basis in fact or technical reasoning to support the determination that such a function necessarily flows from what Schrenk teaches. See *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990). The Examiner has not, and indeed cannot, make such a showing because colorants do not inherently perform a polarizing function and Schrenk does not teach or suggest colorants that do perform such a function.

of the second polarization state.” The dyes described in Schrenk are not polarizing dyes. The cited portion of the Schrenk patent neither teaches nor suggests dyes that would have the function of substantially absorbing light of one polarization state while transmitting light of a different polarization state. The reference also fails to teach or suggest any way to make an absorbing polarizer.

In response to the position that the Schrenk dyes are not polarizing dyes, it was argued in the final Office Action that it would have been obvious or within the level of ordinary skill in the art to adjust or tailor the degree of absorption in order to meet the user's specification. It was concluded in the Office Action that such an adjustment is nothing more than “discovering the optimum or workable ranges” of the system. Such an extension of the teachings of Schrenk is wholly unwarranted. Schrenk provides no discussion or teaching of using a polarizing dye. If one were to adjust or tailor the degree of absorption of the types of dyes described in Schrenk, at most one would change the color or level of absorption at particular wavelengths.

Even if Schrenk did disclose the use of dichroic dyes in one or more individual layers of a reflective polarizer, Schrenk does not teach how to orient such dyes in those one or more individual layers to make an absorbing polarizer or how to align them to the reflective polarizer. Even if Schrenk did teach disposing, orienting, and aligning dichroic dyes in one or more individual layers of the reflective polarizer, Schrenk still would not teach or suggest the use of an absorbing polarizer in addition to a reflective polarizer to achieve desired optical effects. That is, there would still be no showing that an absorbing layer in a reflective polarizer achieves the same result as Applicants' claimed optical polarizer taken as a whole.² Applicants were the first to recognize the benefits of an optical polarizer that includes a reflective polarizer and an absorbing polarizer aligned in such a way to achieve the optical effects taught by Applicants. To ascribe a motivation to modify Schrenk to achieve similar effects would be pure hindsight.³

² In determining the differences between the reference and the claims, the question under 35 U.S.C. 103 is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious. *Stratoflex, Inc. v. Aeorquip Corp.*, 713 F.2d 1530, 218 USPQ 871 (Fed. Cir. 1983); *Schenck v. Nortron Corp.*, 713 F.2d 782, 218 USPQ 698 (Fed. Cir. 1983).

³ Hindsight analysis is improper because the statutory test is whether the subject matter as a whole would have been obvious at the time the invention was made. *In re Deminski*, 230 USPQ 313 (Fed. Cir. 1986).


Schrenk does not teach or suggest Applicants' claimed invention. Schrenk does not teach an absorbing polarizer, nor does Schrenk teach dichroic dyes. Schrenk does not suggest or motivate an ordinarily skilled artisan to modify its disclosure to make Applicants' claimed invention. Schrenk does not teach how to make an absorbing polarizer, nor does Schrenk suggest the optical effects that might be achieved, or how to achieve them, if an absorbing polarizer was used. Even if Schrenk did motivate the modification suggested by the Examiner, Applicants' invention would not result. Disposing polarizing dyes into individual layers of the Schrenk reflective polarizer does not necessarily result in Applicants' invention. For each of these reasons, the obviousness rejection should not be maintained, and Applicants therefore request reconsideration.

With specific regard to amended claim 13, Applicants recite that the absorbing polarizer is positioned to provide antireflection on at least one side of the reflective polarizer. Such a construction can have particular advantages, for example, in direct view LCD displays where, as described in the present specification, the reflective polarizer can be used to increase the display brightness while the viewing side of the reflective polarizer element does not reflect light. The combination of a reflective polarizer of the type recited in claim 13 and an absorbing polarizer to provide antireflection is neither taught nor suggested by Schrenk, in addition to the remarks presented above.

A *prima facie* case of obviousness had not been made in the parent application because the reference cited fails to teach or suggest all the elements of Applicants' claimed invention and because there is no motivation for one of skill in the art to make the proposed modification. In view of the technical and legal inappropriateness of the rejection made in the parent case, Applicants submit that claims 1-9, 13, and 14 are in condition for allowance and request an early indication of the same.

Respectfully submitted,

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Date

By 
Robert J. Pechman
Registration No. 45,002

Office of Intellectual Property Counsel
3M Innovative Properties Company
P.O. Box 33427
St. Paul, Minnesota 55133-3427
Telephone: (651) 737-0631
Facsimile: (651) 736-3833